[redacted] 25X1C REPORT NO. [redacted] 25X1A

INTELLOFAX 29

INFORMATION REPORT

CD NO.

COUNTRY USSR (Vologda Oblast)

SUBJECT Vytegra Canal

PLACE ACQUIRED [redacted] 25X1A

DATE OF INFO.

DATE DISTR. 4 March 1952

NO. OF PAGES 3

NO. OF ENCLS. (LISTED BELOW) 1 (2 pages)

SUPPLEMENT TO REPORT NO.

25X1X

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1. From the point where the Svir River falls into Lake Onega to a point near the town of Vytegra (61°00'N/36°27'E), the Vytegra Canal runs at a short distance from and parallel to the southwestern bend of the shore of Lake Onega. From there it follows the course of the Vytegra River which is about 30 to 40 meters wide and 2 to 2½ meters deep. The river banks are protected by fascine revetments. Directly above the northern end of Lake Byelosero, it reaches the watershed between the Arctic Sea and the Caspian Sea. From the point where the Vytegra River leaves Lake Byelosero it runs in an artificial bed along the western and southern shore of the lake until it joins the bed of the Sheksna River near Tchita. (1) The Sheksna River establishes a connection with the Volga River via Cherepovets and Shcherbakov (Rybinsk) (58°03'N/38°50'E). From Lake Onega to the watershed, the canal ascends about 110 meters, and from there it descends 13 meters before it joins the Sheksna River.

2. Large sea-going ships coming from the south could operate on the river as far as Chayka (60°01'N/38°06'E). From Cherepovets , ships of 1,000 to 2,000 tons as well as trains of barges could navigate there toward the south; however, only small vessels with single barges in tow could proceed toward the north. During the period from October to April of each year, the canal was closed and harbor operations in Cherepovets ceased also. The installations of the canal were obsolete and primitive. The bed of the Vytegra River was silted up at some places so that towed barges frequently touched ground, especially in the sharp bends. Dredging operations were observed in various places. For surmounting the different terrain levels between Vytegra and the watershed, 32 locks were available, and four additional locks were set up between the watershed and the junction of the canal with the Sheksna River. Locks 1 and 2 were just a little north of the Vytegra River, locks 9 through 11 were near Repovo, 26 km distant from Vytegra, on the stretch to Markovo (60°56'N/36°44'E). The water collected in these locks was conducted to a power station which was being built on the western bank of the canal near Markovo. Lock 20 lies near the locality of Bely Ruchey (60°55'N/36° 52'E). All these locks were fitted with wooden walls and gates and were hand operated by means of capstans. The locks were said to be 60 to 100 meters long and 6 to 10 meters wide. Anyhow, the locks were large enough to allow the passage of one 80-meter barge with its tug. (2) The locks were designed so as to be capable of overcoming differences in level up to 4 meters. The filling and emptying operations of the locks took between 20 to 30 minutes.

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Only one barge with one tug could be locked through in one operation. Outside the locks the canal was wide enough to allow two vessels passing one another. Several locks were fitted with floating wooden bridges. These bridges were placed across the canal when the lock gates were closed and removed to one bank when shipping on the canal was resumed. (3)

3. Shipyards mentioned included: a yard for wood repairs in Novinka, 30 km southeast of Vytegra, another yard for iron repairs in Davidovo, 29 km southeast of Vytegra, and a building yard in Bely Ruchey. During the winter of 1948/1949, four barges approximately 80 x 15 meters were built in the latter yard.

4. Traffic on the canal was very heavy during the season from early May to October. The locks could handle 1½ to 2 vessels per hour; in most cases, traffic was congested in the approaches to the locks. Most of the vessels were Diesel-powered and some of them were towed by Diesel-powered tugs. The vessels were up to 900 tons. Northbound traffic included tanker vessels with fuel from Baku and barges carrying salt, fertilizers such as potash, lumber, and foodstuffs. Southbound traffic included supply goods, building materials, iron structures and building machines. One drawback of the canal was that it was not navigable for large vessels, which therefore had to transload their cargoes into smaller vessels in Cherepovets. Tow barges, up to 80 meters in length, floats and passenger vessels were observed

5. On 20 October 1949, two large gunboats and two modern torpedo boats were observed between Cherepovets and Chayka. Crew members said that the vessels came from the Caspian Sea. In July 1949, the passage of five mine-layers was observed in lock 11. Each of these vessels arrived in tow. They were not allowed to use their own engines, for fear of damaging the embankment by the wash of their propellers. From statements made by crew members, it was inferred that the boats came from the Black Sea and were bound for Leningrad. (4) In the summer of 1949, several vessels were seen passing through the canal at Vytegra. Fourteen vessels, each in the tow of a tug, passed there on a single day. Torpedo tubes, guns of approximately 76 mm caliber, and light AA guns in twin mounts were seen on them. The master of a Soviet tug said that the vessels came from Astrakhan, were bound for Leningrad, and had taken 21 days to cover the distance from Astrakhan to Vytegra. According to former German navy men seagoing tugs were also seen. These tugs had huge superstructures including several cabins on the upper deck, and heavy towing gear.

6. Available reports are unanimous in stating that it was planned to widen and improve the canal considerably. A 10-year program was drawn up. It chiefly provided for the construction of two central lock systems. An engineer of the construction staff said that after its completion, large warships would also be able to reach the Arctic Sea from the Black Sea by way of this canal. The following three projects for widening and improving the canal were prepared:

1st Project: To surmount the difference in terrain levels, two central lock systems will be built. Lock system I will be erected at kilometer marker 22, counting from Vytegra just north of Repovo. It will consist of 10 lock chambers one behind the other like a staircase for surmounting differences in terrain levels of more than 40 meters. Lock system II will begin at kilometer marker 28, counting from Vytegra and is located close to Novinka. Sixteen locks, each raising the water 4 meters, will be arranged one behind the other so as to surmount a fall of 64 meters.

2d Project: An entirely new canal bed will be excavated, probably 2 to 4 km west or east of the old bed of the canal. No details are available.

3d Project: A temporary canal will be built and a new one will be constructed in the old bed of the canal which will be made navigable for larger vessels. Details concerning this project are not available. The dimensions reported indicate that comparatively large seagoing vessels will in the future be able to use the canal from sea to sea. [redacted] said it would be widened from 4 to 30 meters, while others mentioned widths from 100 to 200 meters. The canal was to be deepened to 15 and 25 meters. Expansion work which was to begin in 1949 was postponed to facilitate work on the Volga-Don-Canal. Actual construction work was not observed as late as the fall of 1949. However, preparatory work had been started by that date. The erection of large convict camps, including a central camp near both Repovo and Novinka, was observed. The latter camp was intended for women. Small camps already existing along the line of the canal were being enlarged. Members of the construction staff spoke of a labor force of about 300,000 workers to be concentrated for the construction of this canal. 25X1

In 1949, the construction of an electric power station was begun near Repovo-Markovo. This power plant was to supply the current needed for the construction of the canal and, later, for operating the ship lifts. Another large power station was to be erected on the shore of Lake Onega, just west of the mouth of Vytegra River. For this power station, the construction of a barrage dam, a little upstream from the mouth of the Vytegra River, seems to be planned since the inhabitants of the Vytegra Valley complained that they would have to leave their villages in the near future to settle on the hills. Power transmission and light lines were being laid and towers for overhead lines were erected for the scheduled building operation. The sawmills situated along the line of the canal made railroad ties for the construction of a single-track railroad line along the western bank of the canal. These ties were collected in large numbers in the camps near Novinka and Bely Ruchey. Near Repovo, lime and gravel works were erected and pumping stations were built near Repovo and Markovo. A post office was installed in Markovo. Fuel tanks were installed at large intervals along the canal between Vytegra and Chayka. The preparatory work and the construction of the labor camps were the responsibility of Firm SMU 2. Workmen of this firm said, solid ground was struck at a depth of 15 meters in the otherwise marshy terrain of the Vytegra valley. Because of the swamp bottom test drillings were possible only in winter.

25X1A [redacted] Comments.

(1) Chayka (60°01'N/38°06'E), not Tchita, is the location referred to.

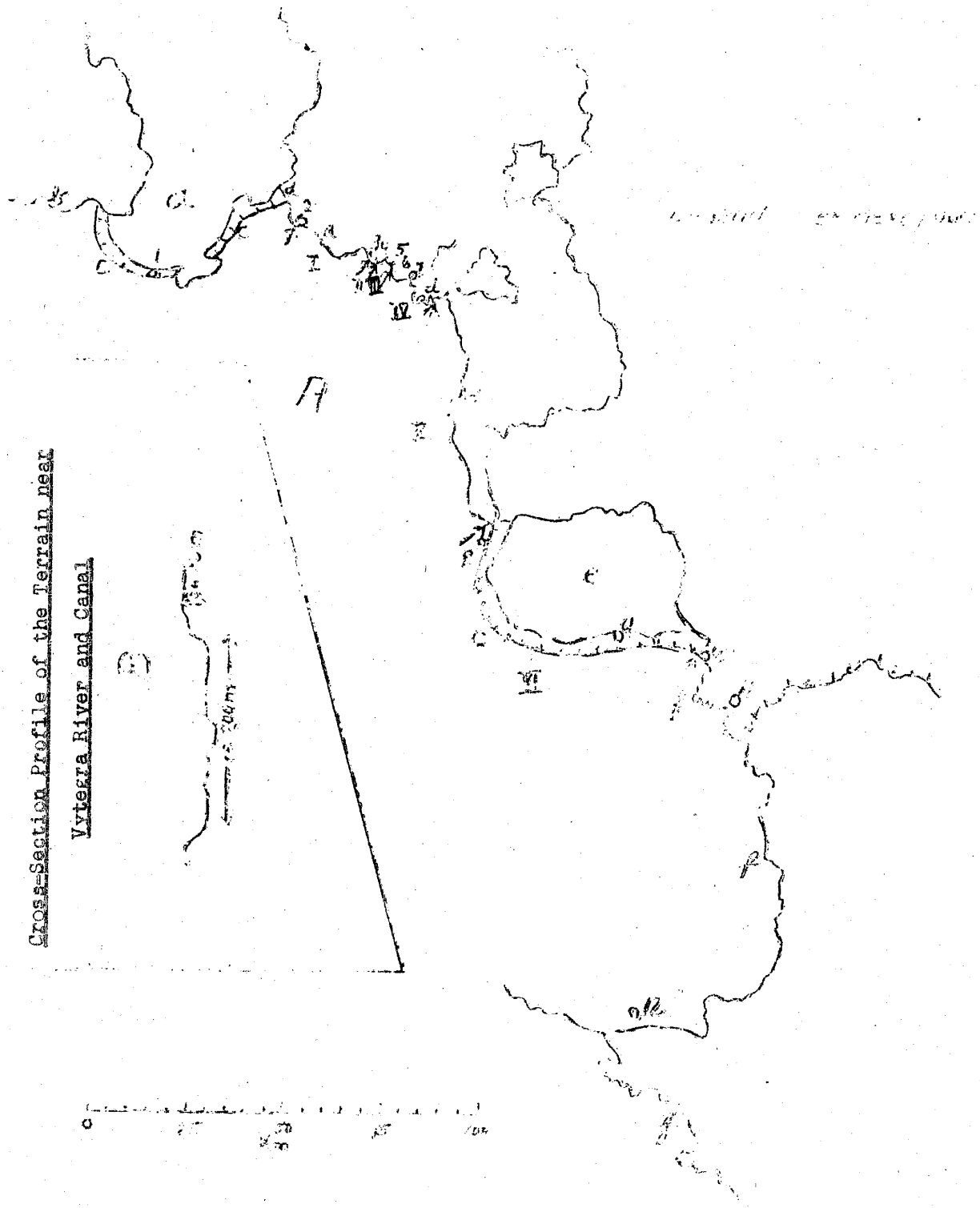
(2) Two PWs stated that the canal on the stretch south of Vytegra was 4 or 4½ meters wide. One [redacted] said the width of the locks was 6 and in certain places 10 meters while the width of the bed of the Vytegra River was 30 to 40 meters. 25X1

(3) For course of the canal, see Annex.

(4) A freeboard of 3 meters observed with the minesweepers indicates that the vessels were lightened before setting out on that trip. The davits mounted at the sterns of the vessels show that they were minesweepers.

1 Annex: 1 - sketch on ditto.

Course of the Vytegra Canal



CENTRAL INTELLIGENCE AGENCY

[redacted] Attachment

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Legend:

a. Lake Onega.

b. Svir River.

c. Artificial canal bed.

d. Vytegra River.

e. Byelosero (White Lake).

f. Sheksna River.

I. Stretch of locks 1 through 8, 26 km of river distance.

II. Stretch of locks 9 through 11, 900 meters of river distance.

III. Stretch of locks 12 through 16, 5 km of river distance.

IV. Stretch of locks 17 through 24, 15 km of river distance.

V. Stretch of locks 25 through 32, 80 km of river distance; lock 32 is the watershed.

VI. Stretch of locks 33 through 36.

1. A small and unidentified town between the lake and the canal.

2. Town of Vytegra.

3. Village of Repovo, 26 km SW of Vytegra.

4. Village of Markovo, 1 km SE of Repovo.

5. Village of Davidovo, 29 km SE of Vytegra.

6. Village of Novinka, 6 km SE of Repovo.

7. Town of Bely Ruchey.

8. Town of Kovsha.

9. Town of Byelozersk.

10. Village of Tchita.

11. Town of Kirillov. The village of Chayka is located between Kirillov and Cherepovets.

12. Cherepovets.

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